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ORIGINAL DEPARTMENT.

LECTURES.

Lectures on Orthopædic Surgery.

Delivered at the Brooklyn Medical and Surgical Institute.

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II.—*Deformities at the Knee-joint.*

GENTLEMEN:—The articulation to which we now invite your attention is very important. Its anatomical construction is complicated. It participates in almost all active positions the body may assume, bearing at the same time the superincumbent weight. It is but indifferently protected by soft tissues, and much exposed to traumatic injuries. The latter are the remote cause of by far the larger proportion of deformities occurring at the articulation. The form of distortion resulting from that source is simple flexion of the leg, Fig. 24, with more or less rotation of the tibia and eversion of the toes. Contraction of the biceps muscle is so constant a symptom of inflammations of and about the knee-joint that it may be set down as pathognomonic.

We need not repeat on this occasion all we have adduced in our general remarks on reflex actions, as co-ordinate symptoms in articular diseases; nevertheless, we desire to re-engage your interest on some very prominent points.

In all articular diseases, and more especially in those of the knee-joint, contractions of the flexor muscles of the leg form a prominent feature. They mostly appear soon after the commencement of the disease; but certainly they scarcely ever fail to set in during its progress. Inflammatory affections of the knee-joint,

without reflex symptoms of this order, are very rare, and are, therefore, extreme exceptions.

The form in which these reflex symptoms appear is that of a tonic spasm; but, exceptionally, we have observed them to be of the clonic form. In the case of Ludwig Schindler, alluded to in our clinical lectures "on Contractions of the Knee-joint," they assumed the character of local convulsions, which kept the affected extremity, with few and short intermissions, in a most painful quiver. But even in tonic spasms, you may notice these convulsive oscillations in the contracted muscles whenever you disturb their status. And it is

rather surprising that this prominent symptom of reflex action should have been, at so late a period, noticed, and received its proper physiological commentary; more especially as it is combined with a peculiar pain which has no direct connection with the progress or regress of the original disease in the joint. We are satisfied that the intensity of reflex symptoms acts more directly and more prejudicially on the constitution of the patient than the latter, and therefore it is of the

Fig. 24.



greatest practical importance to prevent them, or to simplify the disease by their removal.

Whenever you are called to a case of injury to the knee-joint, however trifling, it will be worth your while to pay due attention to this symptom; and if you find the slightest tendency to flexion, the attempted extension of the leg being painful, you had better at once employ extension and counteract the mischief at the very commencement. It would justly reflect upon the skill and knowledge of a surgeon, if he should allow the severe sufferings of his patient and the most unsightly deformity to grow under his eye, without resorting to remedies which are known to be efficacious.

If, however, the contraction of the hamstring muscles have become permanent, extension alone is rather hazardous, for it may give a new impetus to the active disease. Nay, more, we have seen the disease reproduced after a lapse of years, by indiscreetly employing undue extension. In these cases, the division of the contracted muscles, or their tendons, should precede the use

of extension; and this alone will do more for the arrest of the disease than the balance of antiphlogistic or constitutional remedies.

Although it is not our province to enter upon the consideration of articular diseases, yet we cannot refrain from remarking that their treatment renders the employment of orthopædic measures imperative; not so much for the purpose of relieving the deformity, as to remove an element of the disease itself, which it is dangerous to disregard. Our success in the treatment of incipient and advanced joint diseases, we can ascribe to nothing else than to a due attention to this momentous symptom. Lately we employed a straight iron splint, Fig. 25, surrounding three-fourths of the extremity

from behind, and extending from the tuber ischia

down to the heel. In this, well padded, we bandaged the limb down in a straight position, and thus secured both rest and extension. But we feel persuaded that a simple cord and pulley and a proportionate weight is the gentler, and certainly the more reliable remedy.

The mode of applying them is simply as follows: Take a sufficiently long and wide strip of adhesive plaster—the better is that of Canton flannel because the stronger—and fasten it with a roller on either side of the leg, beginning about an inch below the joint and leaving a loop below the foot. Place a simple pulley at the foot of the bed; lay the leg of the patient upon a water-cushion, and fasten a string to the loop in the plaster, carrying it over the pulley, and attach the weight at the end. The body of the patient is mostly a sufficient counter-weight. If deemed necessary, apply counter-extension to the pelvis. It may also be advisable to protect the instep of the foot and the Achilles tendon from the pressure of the bandage by a small piece of adhesive plaster. You perceive that the limb is thus securely placed; the articulation exposed to your inspection and to the application of local remedies, the extension entirely under control, may be increased or diminished as the case may require. The water-bed secures cleanliness in case of suppuration, and the elastic extension and counter-extension enables you to move the articulation as often as is needful to prevent ankylosis.

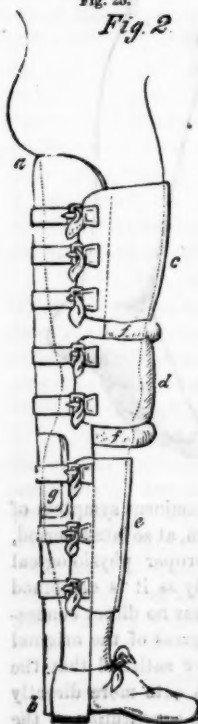
Angular contraction of the Knee-Joint with Ankylosis.

If no attention be paid to the gradual contraction of the hamstring muscles, the affected articulation may recover by ankylosis and a permanent angular deformity.

Simple arthro-meningitis (synovitis) most usually terminates in *fibrous adhesion* of the articular faces, (false ankylosis.) According to the angle of contraction, different points of the articular faces may become thus agglutinated. In the right angle, for instance, the posterior circumference of the condyles rests on the tibia. The patella usually becomes adherent to the external condyle of the femur. These anatomical relations are naturally modified if the tibia be likewise rotated on its longitudinal axis and the toes everted, which is mostly the case.

Suppuration of the joint, or pyo-arthritis, as it is called, does not necessarily lead to the other

Fig. 25.
Fig. 2



form of ankylosis. We have, in such cases, freely opened the articulation and allowed the joint to fill up by granulation. Repeated gentle movements effectually prevented the consolidation of the inter-articular effusion. It remained, consequently, fibrous, and allowed a certain degree of mobility. This is a desirable result. If a straight position be likewise secured by proper local treatment, the extremity, for all practical purposes, is rendered useful.

Periostitis of the femur or tibia near the knee-joint generally gives rise to the formation of *osseous bands* (osteophytes) that cross the joint and cause perfect immobility. In as far as the articular faces have remained intact, this form of ankylosis is remediable.

Disease of the bones themselves most usually terminates in the establishment of a bony union, (true ankylosis.)

The treatment of spurious ankylosis of the knee-joint, complicated with angular contraction of the extremity, may be effected by *gradual and increased extension*, or by *forcibly breaking up* all the impediments to mobility.

Gradual extension, for the purpose of overcoming fibrous ankylosis and angular deformity, is an old surgical proceeding. Although repeatedly renewed and combined with friction, steaming, and numerous other local applications, it has never become popular among surgeons. From our introductory remarks you easily understand why such a method must be tedious and inefficacious; but, what is worse, it is extremely painful and dangerous. If but a moderate degree of extension be employed, its effect is naught; whereas severe extension is so excessively painful that no patient can bear it. There is not only danger of sloughing and extensive excoriations from pressure of the mechanical appliances, but the reaction upon the nervous system is frightful. Twenty-four hours' severe extension will more than suffice to throw the constitution of any patient out of its ordinary course. Next, there is the danger of reproducing the original disease from whence the ankylosis and deformity resulted. Our experience, therefore, is not of that description as to encourage the treatment of the like deformities by gradual extension.

The same want of success seems to have induced some surgeons to combine with progressive extension the tenotomy of the retracted tendons. As early as 1810, Michaelis divided the skin and

incised tendons and muscles in a case of scrofulous ankylosis of the knee, and reports, in the *Medico-Chirurgical Gazette* of Salzburg, of the same year,* that the result had been most satisfactory.

Dupuytren and Delpech performed tenotomy by a more accomplished method for the same object; but with Stromeyer's improvements of that operation, the treatment became more systematized.

M. H. Chasest and Lorinzer† still hold that the division of tendons is unnecessary; and the latter thinks that it materially protracts the recovery of the patient.

The biceps has been most frequently divided; after that the gracilis and semi-tendinosus muscles. Palasciano is of the opinion that the division of the quadriceps muscle is an indispensable preparatory measure in order to loosen the knee-cap. Bonnet favors the same opinion, but prefers a different operative plan.‡

The apparatus devised for gradual extension of the knee-joint are very numerous, and some of them most ingeniously constructed, Fig. 26.¶ They have all, however, been superseded by the more simple, milder, and not less powerful pulley and weight. As a general method for the treatment of contractions at the knee-joint, the progressive extension even in connection with tenotomy is not commendable, because it is too tedious. But there are cases in which it may be considered indispensable; for instance, extensive scars in the neighborhood of the joint, the result of supuration or burns. Here the knife can do but little, and extension therefore is opportune.

Forcible extension seems to be likewise an old and popular treatment. In every country, almost, some persons have been noted for their usefulness in setting bones and straightening joints. The shepherds and the schinderknechte of Germany made and make still quite a business of it, and some have acquired reputation and wealth thereby. Similar individuals act in the same capacity among us, and pretend to great ability by intuition. At an early period Amussat reported to the Academy of Medicine that there was a surgeon in Paris who had forcibly extended the contracted knee of a young girl, at which

* Vol. i. page 383.

† American Journal of Medical Science, 1841.

‡ Ueber die Behandlung und Heilung der Contracturen in Knie- und Hüftgelenke. Vienna, 1849.

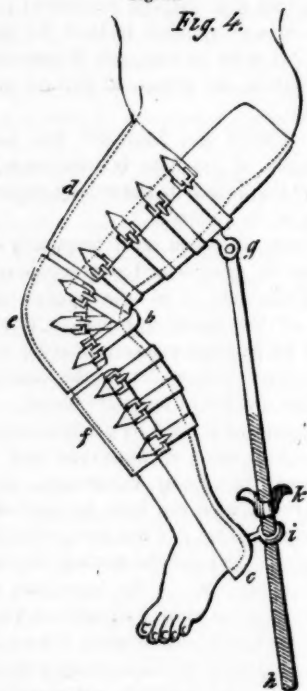
§ Traité de Thérapeutiques des Maladies Articulaires. Paris, 1853.

¶ Apparatus of Robert.

occasion a crackling had been distinctly heard. The child died in consequence of the operation. These were all, however, but erratic attempts to master the existing difficulty; but with

Fig. 26.

Fig. 4.



Louvrier, a young physician of Pontarlier, the method of brisement forcé acquired a more tangible form, (1839.) As a matter of course, the opposition which he encountered was considerable, but equally enthusiastic in behalf of the new method were his friends, and thus he engaged, at last, the interest of the Academy of Medicine. The apparatus which he employed was complicated and clumsy. The results were imperfect. In all his cases the knee-joint did not attain a good form. Some limbs were not perfectly straight. Out of twenty-two cases, three died. In some purulent infiltration occurred. Owing to the imperfection of his proceeding, the extension, in some, terminated in posterior subluxation of the tibia, Fig. 27, as was subsequently verified by post-mortem examination. Notwithstanding all the imperfections, Louvrier has certainly deserved well for the establishment of an orthopædic method which, by gradual improvements and additions, constitutes in our day

a most powerful and efficacious remedy in a class of difficulties which had been hitherto unmanageable. Nor can the discretion which he observed, and the candor with which he admitted the shortcomings of his efforts, be too highly appreciated. Among his most determined opponents at the time were Ferguson and Stromeyer, both of whom, in not very flattering terms, disposed of his method. Dieffenbach was, to our knowledge, the first surgeon who not only vindicated, but had the courage to adopt it, although he added tenotomy. In a comparatively short time this distinguished surgeon had operated upon 200 patients, and reports the general result in his work on operative surgery, to the effect that he lost but two patients by suppurative exhaustion. That amputation was required in one, that in some the limb was improved to a moderate degree, in others ankylosis became re-established. A large proportion of the patients were materially benefited.

Fig. 27.

Fig. 1.



Some advancement has this method of treatment received at the hands of Professor Bernhard Langenbeck, of Berlin, but it should be remembered that he had a most powerful aid-de-camp, namely, chloroform. In his inaugural dissertation, in entering upon his professorship,* he pronounces gradual extension ineffective; the division of the contracted muscles, as performed by Dieffenbach, as superfluous, and even dangerous, by inviting the entrance of air and thus giving rise to suppuration. Louvrier's method is, according to him, too uncertain, and its results removed from the control of the surgeon. The technicism of Langenbeck conforms, in most points, with those of Dieffenbach. The results which Langenbeck attained up to 1853 are compiled in the inaugural dissertation of Philipp Frank.†

In carefully analyzing the results of Louvrier, Dieffenbach, and Langenbeck, and in comparing them with each other, it cannot be denied that

* *Commentatio de contractura et ankylosi genu nova methodo violentæ extensionis ope curandæ.* Berolini, 1850.

† *De contractura et ankylosi articulationis genu et coxæ.* Berolini, 1853.

Dieffenbach's were superior to Louvrier, and Langenbeck's better than his predecessors. But all of them are certainly imperfect, and by no means satisfactory. Louvrier caused, in three cases, considerable injuries to the knee-joint, and consequently lost them. Of what nature these injuries were we have not learned, nor the reason why they happened in three cases, and not in the remainder. Very likely that they were cases of true ankylosis, and that he fractured the bones, or caused diastasis of the epiphysis, or tore vessels or nerves. The subluxation of the tibia, in almost all the cases of Louvrier, must have been a great detriment to the final result of his treatment. For, in the first place, the posterior projection of the tibia must have, by necessity, compressed the popliteal nerves and vessels, thus materially interfering with the circulation and innervation of the leg. Again, the gastrocnemius was evidently put on the stretch, and the heel prevented from reaching the ground. Moreover, the contracted flexor muscles were so much irritated as to cause serious subsequent troubles. Dieffenbach's method was, therefore, a material improvement. In using *manual force* alone, he protected himself against the error of meddling with cases of true ankylosis, not amenable to brisement forcé, and by dividing the contracted muscles, he relieved the patient from the serious consequences appertaining to undue extension. Lastly, in breaking the ankylosis up, by alternate flexion and extension, he obviated subluxations of the tibia. The real merits of Louvrier or Dieffenbach for the advancement of this province of orthopædic surgery are, in our humble judgment, obviously greater than those of Langenbeck. The method of the latter is essentially that of Dieffenbach deprived of the benefit of tenotomy, but favored by chloroform.

We have the most unreserved appreciation of the great talents and diligence of Langenbeck, to whom surgery is greatly indebted for many of its improvements, but we appreciate truth and clinical facts still higher. About 500 cases of affection, contraction, and ankylosis of the knee-joint have given us ample opportunities for most thorough clinical observations, and entitle us to a participation in the settlement of the important question, which is still being discussed by the highest scientific tribunals of Europe, and before which Langenbeck maintains his former position.

On the feasibility of brisement forcé we all

agree. Its superiority over progressive extension can no more be questioned, and its former opponents have been effectually silenced by the overwhelming results of that practice. It has also been clearly demonstrated that the hand is a better mechanical adjuster than the lever and the screw. But for the introduction of anæsthetics, more especially of chloroform, the operation would have been of little practical value. The pain attending it is severe enough to terrify the boldest patient and surgeon. The subsequent sufferings it entails, and the uncertainty of its success, would have driven it again into oblivion. Chloroform and tenotomy alone have secured the future of brisement forcé. The former renders it perfectly painless, the latter protects against conservative effects, which are worse than ankylosis and the contraction of the knee-joint together. We do not dispute that, in some instances, simple extension will suffice to overcome permanently a moderate reflex contraction. Further, we have observed that a weight of a few pounds fastened to the extremity for a few days will have the same effect. But a high degree of muscular contraction can be subdued by division only. The name of Langenbeck was sufficient inducement for us to follow his directions. We tried his method in quite a number of cases; we succeeded, in most of them, in extending the extremity, but as soon as the anæsthesia subsided, the muscles commenced contracting again, or, if prevented therefrom by mechanical restraint, an intense suffering ensued. There are but few maladies that cause so intense agony, and prostrate the constitution in so short a time, as the persistent extension of contracted muscles. We remember, among several cases, particularly one of a little boy, who was brought on from Montgomery, Alabama, with a contraction of the knee-joint. The original disease, synovitis, had subsided two years before. The joint was quite well, and there was no pain felt either on motion or pressure. Moreover, the mobility of the joint was not materially disturbed, beyond the impediment of the contracted flexors. Under chloroform only the biceps muscle felt tense, and we divided it. We then easily succeeded in extending the leg, and in securing its position in a straight splint. The anæsthesia had scarcely passed off, when the patient began crying loudly, and very soon the articulation became tender and distended. Inflammatory fever set in, with a pulse of 150. The strongest opiates, the most active and persistent general and local antiphlo-

gosis made no impression whatsoever. The paroxysmal pains suggested to our mind their specific character. On relieving the limb from its restraint it immediately bent. This was another indication in the same direction, and yet the tension of the remaining undivided flexor muscles was so trifling as scarcely to deserve notice. On the sixth day after the operation, the joint was greatly distended and fluctuating, without the slightest sign of amendment. At that juncture, we again placed the patient under chloroform, when again all muscular tension vanished, and we had to wait for the subsidence of anaesthesia in order to mark the tendons to be divided. What sedatives and the whole antiphlogistic apparatus failed to effect, tenotomy did. Rest immediately ensued therefrom. From that moment improvement commenced, and eventuated in perfect recovery. We could adduce several instances of the same striking and conclusive nature. But one will suffice to illustrate the importance of tenotomy in the treatment of the deformity under consideration. We shall now proceed to delineate the plan which we have adopted, and which we have reason to believe is the mildest, the safest, and certainly the most effective. First, be certain in the diagnosis. Fibrous ankylosis may be easily recognized, for there always remains a moderate degree of mobility at the joint; even osteophytes are not incompatible with mobility, more especially when they arise from one bone, and do not firmly connect with the other. But if both bones are united by osteophytes, there is nothing left of mobility, and in as far as the latter is concerned, there is no symptomatic difference between a true ankylosis and that caused by osteophytes. The previous history of the case alone can give you a clue as to the nature of the ankylosis. From our preceding remarks you may be led to expect osteophytes from previous periostitis, and true bony union from a more structural affection of the joint itself. Supposing, then, that we had either a fibrous or an osteophytic ankylosis, with marked contractions of the flexor muscles, we would suggest, first of all, to divide all the contracted muscles. It will be better to do this six or eight days previous to the performance of the brisement forcé. By that time the wounds have firmly closed. No air can enter and give rise to suppuration, and you obviate at least one of the objections raised by the opponents of tenotomy. It is, of course, indifferent whether you use chloroform on that

occasion, since but little pain accrues from the operation. Nor do we deem it necessary to give you special advice as to the flexor muscles of the leg, since by extension you can raise them from the adjacent parts, and divide them successively as they present themselves. The division of the tendon of the biceps deserves special mention. The external popliteal or peroneal nerve is in such close approximation to the internal margin of the tendon as to be easily cut through. If this be the case, paralysis of the abductor muscles of the foot and talipes varus would, inevitably, follow. In order to avoid this nerve, you have to divide the tendon either from outside by dead pressure with a tenotome not too sharp, or by inserting it close to the inner margin of the tendon, and give the edge an outward direction.

But if there be no trace of mobility in the joint, as in complete osteophytes, the brisement forcé should precede the tenotomy, for reasons that require no further explanation.

In order to perform brisement forcé, the patient should be fully under the influence of chloroform. He should be placed on his face, but at the same time due attention paid to respiration, for at that degree of anaesthesia respiration is very feeble, and in the main diaphragmatic. The slightest impediment may entirely arrest it. As soon as the patient is thus prepared, you have the thigh properly fixed by an assistant, and then taking hold of the leg, bend it with a sudden jerk, and thus extend it; and so continue to alternate between flexion and extension, until the articulation is quite free. If there be any rotation of the tibia, it will be advisable to amend that position by twisting it in the opposite direction. This done, bandage the extremity carefully with a roller, surround the knee-joint with strips of stout adhesive plaster, and fasten either the extremity in a straight iron splint, such as you see before you, or adjust the extension with the pulley and weight, as before described. In order to correct the lateral position of the limb, Professor Robert places side cushions inside of the splints before fastening the extremity, and has obtained good results thereby.

With this plan we have obtained most satisfactory results, and have never had any trouble in producing a speedy and steady recovery of numerous patients. It was never followed by inflammation or neuralgia, that other surgeons have complained of; nor did the contraction return, provided all the contracted muscles had

been successfully divided. If any of those symptoms should set in, rest assured that the tenotomy is not complete. The earlier you perfect it, the better it is for your patient. It is needless to contend against them by antiphlogistics and sedatives; you will effect nothing. Tenotomy is the only remedy.

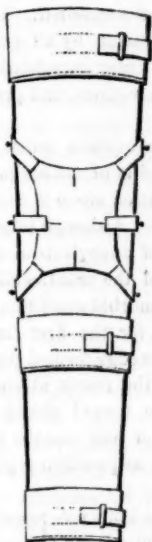
Most patients are quite satisfied with a straight and stiff limb. The after-treatment requires then very little more than an instrument affixed to the limb, which we here exhibit, Fig. 28. It consists, as you perceive, of two straight pieces of steel properly adjusted to the form and length of the extremity. It should extend from the upper third of the thigh almost to the ankle-joint. The splints are connected by four iron bands embracing the posterior half of the member, of course well padded; the anterior half is completed by a broad leather belt. A knee-cap, made of stout buckskin, which combines both firmness and elasticity, to be fastened to the splints, should prevent the knee from bending. The same apparatus answers equally well in the after-treatment of transverse fracture of the patella. The extremity thus secured and protected against incidental motions will enable the patient to walk a week or fortnight after the operation, and he should wear it until the knee-joint is perfectly ankylosed. If, however, the patient desires the re-establishment of articular mobility, and his case is favorable, the after-treatment will necessarily be more tedious. You will, in this instance, keep the extremity for a longer period under elastic extension and counter-extension, while daily passive motion must be instituted. You may combine it with infusions of appropriate liniments with warm local baths, and expose the joint to hot vapor and other remedial substances which you may deem proper. Time and perseverance, united with discretion, will achieve much benefit for your patient.

The brisement forcé is in appearance and reality a powerful remedy. It overcomes, by main force, all resistance; it ruptures the fibrous adhesions of the joint and unyielding tissues, and can certainly do great mischief if indiscreetly performed. But in using the necessary precautions with physical power, nothing is to be apprehended therefrom. In the large number of our cases we had but two accidents: one of them was inevitable, and certainly could not be foreseen. The case refers to Patrick Feeney, a youth of about sixteen years. He was tall,

slender, and evidently of feeble constitution. Having been employed in a manufactory in which he had to tread a wheel, he had thus acquired an inflammation of his knee-joint, which terminated in a deformity. His leg was bent at an angle of 105° , but permitted mobility within an angle of 30° ; beyond which there was resistance on the part of the contracted biceps, and some other articular impediments. The patella was moderately movable. After having divided

Fig. 28.

Fig. 29.



the tendon of the biceps, we increased the flexion of the limb by a comparatively gentle effort, when, to our surprise, the resistance suddenly yielded. A few days afterward a slough appeared in the popliteal space, and the suppuration became so profuse as to render amputation imperative. It was then found that the epiphysis of the femur had yielded, whereas the articular adhesions had remained unbroken, Fig. 29. The disproportionate strength of the articular adhesion, over and above the union between the lower extremity of the femur to its shaft, was the proximate cause of the accident, and certainly could not have been anticipated. A large proportion of our patients have been children where the same condition of the femur existed; yet we never met with a similar accident, nor have we found anything like it recorded in medical literature.

A moderate physical force is sufficient to fracture osteophytes, at least we have found it so. Should you not succeed in accomplishing your object, try it again; but do not employ violence, for you might fracture the bones. Some years ago, Dr. Moses invited us to a proposed exsection of the knee-joint, at the "Jews' Hospital," for true ankylosis. The limb was in a flexed position and the articulation absolutely immovable; but the entire absence of scars and the previous history of the case suggested periostitis as the remote cause of the trouble. Before the intended operation was commenced, Dr. Moses, with our advice and assistance, attempted to extend the limb by *brisement forcé*, and *succeeded*. The crackling heard upon that occasion by all present left no doubt that the articular impediments consisted in isolated bony connections, and probably in osteophytes alone.

In extensive and complete osseous union of the knee-joint, *brisement forcé* is of course ineffective. Rhea Barton's operation alone is calculated to meet the emergency. Although originally proposed for the relief of ankylosis of the hip-joint, its author conceived the practicability of the operation in the same morbid condition of the knee-joint. In 1835 he, for the first time, performed the exsection of a wedge-formed piece of bone from the knee, and the result attained was highly satisfactory. The wound closed in two months, and in five and a half months the patient resumed his avocation as practicing physician.

The second operation of this kind was resorted to by Prof. Gibson, of Philadelphia, and likewise terminated favorably, the patient being capable of walking without crutches five months after.

The third operation Dr. Gordon Buck successfully performed at the New York City Hospital in 1844. The patient subsequently sustained a fall from a ladder and fractured the new union; recovery ensued without any untoward incident.

Since then the same operation has been repeated by Mütter, Bruns, (Tübingen,) Heuser, B. Langenbeck, Ried, Robert, Post, (New York,) and others. As far as we have ascertained, but two cases proved fatal, (Bruns and Post;) the balance recovered with useful extremities. The technicalities of Barton's procedure may be found in every work on operative surgery.

Prof. Brainerd, of Rush College, has, some time ago, suggested weakening the inter-articular substance by drilling it in various directions

through a small wound, and then to fracture the rest. How many operations have been made according to this plan, we do not know, but its application signally failed in a case of one of our most accomplished surgeons, (Prof. Gross,) and a chisel had to be resorted to, which was driven through the bony connection.

A similar proceeding had been proposed by Prof. Shuh, of Vienna, as early as 1853, but did not meet with the approval of German surgeons.

Whether the recently introduced so-called osteoplastic operation of B. Langenbeck has been attempted in true ankylosis of the knee-joint, we are equally ignorant, but apprehend that a simple separation of the articular faces by drill or saw will scarcely suffice to give a good form to the extremity, the new bony substance being an impediment; and, therefore, we would prefer, of all the methods suggested, that of Rhea Barton, which has proven itself both effective and comparatively harmless.

COMMUNICATIONS.

The Insertion of the Capsular Ligament of the Hip-Joint, and its Relation to Intra-Capsular Fracture of the Neck of the Femur.

By GEO. K. SMITH, M.D.,

Demonstrator of Anatomy in the Long Island College Hospital, Brooklyn, New York.

Concluded from page 514.

The following is a brief history of the specimen owned by William Parker, M.D., Professor of Surgery in the College of Physicians and Surgeons of the City of New York. The patient was an unmarried female, about sixty years of age when the accident occurred, and was at that time an inmate of the Almshouse of Barnard, Vermont. "One morning while going out of doors she fell, striking upon her hip." "On examination, the physician in attendance diagnosed a fracture of the neck of the femur, there being present crepitus, shortening, eversion of the foot, etc." The doctor applied the straight splint, and on removing it at the expiration of six weeks, found that the limb was shortened half an inch. Four years after the injury, the fractured bones, together with the sound femur of the same subject, came into the possession of Professor Parker, and I am under many obliga-

tions for his kindness in lending me the specimens till the artist could represent them by the drawings.

Fig. 11 represents a view of the posterior surface of the fractured bone. The shaft of the bone is rotated outward, and the posterior surface of the neck is very much shortened by absorption;

Fig. 11.



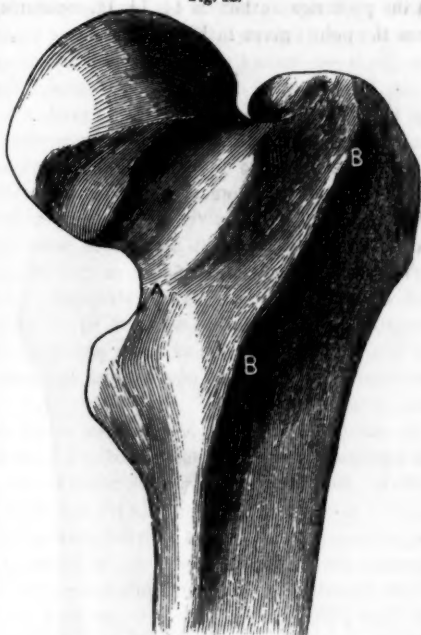
so that, measuring from the points indicated in Fig. 4, the distance from A to B is only $\frac{3}{8}$ of an inch; C to D, $\frac{1}{2}$; and E to F, 1 inch; while the distances from A, C, and E to the line of union are, respectively, $\frac{3}{8}$, $\frac{1}{2}$, and $\frac{3}{8}$ of an inch.

Fig. 12. Anterior view of same specimen. A A is the line of union, and B B the inter-trochanteric line. The length of the anterior surface of the neck is exactly the same as that of the sound bone, the neck having lost nothing by absorption on this surface. The line of union is internal to the inter-trochanteric line, $\frac{1}{2}$ an inch above, and $\frac{3}{8}$ of an inch below, consequently the fracture was, without doubt, entirely intra-capsular on the anterior surface of the neck.

Fig. 13 exhibits a section of the fractured bone. The white portion, represented by the letter A, is a condensed bony structure, shooting upward in parallel plates from the line of union

into the head of the bone. B B is a similar condensation of the cancellated structure, passing

Fig. 12.



downward from the line of union into the shaft of the bone.

Fig. 13.



Fig. 14. Posterior view of sound femur of the same subject. The length of the neck on its anterior surface is 1 inch, and $1\frac{1}{4}$; and the length on the posterior surface is $1\frac{1}{4}$, $1\frac{1}{4}$, $1\frac{1}{4}$, measuring from the points given in Figs. 3 and 4.

Fig. 14.



The line of union, on the posterior surface of the neck of this specimen, is too near the shaft of the bone to be included by any specimen of the normal capsule which I have seen. The line of fracture may have been as close to the shaft of the bone as the line of union is; and, if so, the shortening of the posterior surface of the neck by absorption has been entirely at the expense of that fragment of the neck which was attached to the head of the bone. Again, the fracture may have been altogether within the capsule, and if this were the case, it is probable that the loss of structure by absorption has been partly at the expense of each fragment of the neck, union having occurred after the absorption of the femoral fragment had reached a point far without the normal capsule. The line of union has, by many writers, been considered identical with the line of fracture, but this can only be true of those specimens in which the neck has lost nothing of its length by absorption; for if a portion of the neck be removed before union occur,

it is impossible to determine that the absorption was entirely at the expense of either fragment.

The specimen represented by the following engravings was very kindly loaned to me by Alfred C. Post, M.D., Professor of Surgery in the University Medical College of the City of New York. It is to be regretted that this specimen came into the possession of Prof. Post unaccompanied by a history. Prof. Post states that he "exhibited this specimen at a meeting of the Medical and Surgical Society of the City of New York," and that "it was believed by most of the members present to be an illustration of bony union of intra-capsular fracture; but a few of the members took opposite grounds, and contended that the bone had never been broken."

Fig. 15.



The external appearances of this specimen are strongly indicative of bony union of fracture

within the capsule, while a section of the specimen exhibits no evidence that the neck was ever broken. The cancellated structure of the head, neck, and upper part of the shaft is perfect and entire; and this appearance is seldom, if ever, seen in well-authenticated cases of bony union after fracture of the neck. If the neck were ever broken, the fracture and the union of the fragments occurred, without doubt, entirely within the normal capsule; but there must exist some doubt that the neck was ever fractured.

Fig. 15 is an anterior view of Prof. Post's specimen. Fig. 16 is a view of the posterior sur-

Fig. 16.



face of the same specimen. Fig. 17 exhibits a section of the specimen.

Fig. 17.



"Dr. Charles A. Pope, Professor of Surgery in St. Louis University, Missouri, informs me that he has an example of 'intra-capsular fracture of the neck of the femur, with concomitant fracture of the acetabulum. The union by bone is perfect, although the neck is, as it were, gone, the head being almost squarely set on the shaft of the bone. The head is much deformed, being an enlarged cone, and fitting into a similarly shaped acetabulum. The motions of the joint were well preserved.' I have never seen this specimen, and I am therefore unable to speak of it authoritatively; but I confess I do not see how it is possible to know that the fracture was wholly within the capsule when the neck is gone."*

Professor H. H. Smith, of Philadelphia, in his work on Surgery, page 399, has the following brief report of two cases of bony union, after fracture of the neck of the femur:—

"There is in the Wistar and Horner Museum of the University of Pennsylvania, a femur, apparently of an old woman, in which the neck has been fractured near the head, yet, in which complete osseous union, though with some degree of shortening, has taken place. I have, moreover, in my own cabinet, a specimen in which the bone has been fractured through the neck near the head, the fragment having slid down beneath its natural position, and the fracture traveled obliquely down the neck, though still within the capsule, splitting it off in the line of the intertrochanteric ridge. In this case, which must have produced marked shortening of the limb, there is complete osseous union."

The report of the first case is very brief and unsatisfactory, while that of the second is given

* Hamilton on Fractures and Dislocations, page 370.

more at length. Prof. Smith states that "the fracture traveled obliquely down the neck, though still within the capsule, splitting it off in the line of the inter-trochanteric ridge," and if this be true, the fracture extended some distance beyond the limits of the synovial membrane, and cannot therefore be regarded as an intra-capsular fracture. (See Fig. 1.)

SUMMARY.

1st. The insertion of the capsular ligament of the hip-joint varies so greatly, that scarcely any two specimens of the normal capsule, taken from different subjects, can be said to be inserted into the neck of the femur at the same point, and so wide are the differences seen that, if a transverse fracture of the neck of the femur be located at a given distance from the posterior inter-trochanteric line, it will be found to be entirely included by the capsular ligament in one specimen, and on the posterior and inferior surfaces of the neck, half an inch or more external to the capsule, in another; hence it is impossible to determine the precise location of capsular insertion by measurements of the neck of the femur after the removal of its capsular ligament; and it is also impossible to indicate the line of capsular attachment by comparing the dried bone with a specimen taken from another subject, to which the capsule still remains attached.

2d. The descriptions of the insertion of the capsular ligament given in our works on anatomy are even more widely at variance than the differences seen in nature. Some locate the posterior insertion of the capsule at the middle of the posterior surface of the neck, some at the posterior inter-trochanteric line, and others at all points intermediate between these two extremes; hence, if fracture of the neck of the femur occur at any point between the head of the bone and the posterior inter-trochanteric line, we can find authority among anatomists for believing that the fracture is intra-capsular; and it will be observed that, notwithstanding the extreme diversity among our authors in describing the insertion of the capsular ligament, not a single one even intimates that it ever varies from the position which he, himself, has assigned to it.

3d. The insertion of the capsular ligament is often removed by the morbid changes consequent upon fracture of the neck of the femur; therefore the capsule of the fractured bone cannot be said to furnish reliable evidence that the fracture was

within the normal capsule. The normal capsule is usually inserted into the middle of the posterior and inferior surfaces of the neck; in some instances a little nearer the head of the bone than this point, and in others more remote, but never as far distant as the shaft of the bone; while the capsule of the fractured bone is often found to have its insertion into the shaft, the entire neck of the bone having been removed by absorption before union occurred.

4th. The capsular ligaments of the opposite femurs of the same subject are exactly alike in their insertions into the neck of the bone; hence if the surgeon who makes an autopsy after union of fracture of the neck of the femur removes both hip-joints, the insertion of the capsular ligament of the sound femur will show the normal insertion of the capsular ligament of the fractured bone, and a comparison of the two specimens will determine at once whether the line of union in the given specimen be altogether within the normal capsule.

5th. The line of union in a given specimen of fracture of the neck of the femur cannot be said to indicate the exact position of the line of fracture, if the neck suffered loss by absorption before union occurred; since it is impossible to determine that the loss of structure was entirely at the expense of either fragment of the neck. Some surgeons have recorded, as examples of bony union of intra-capsular fracture, cases in which the neck was completely removed by absorption, and the head of the bone closely united to the shaft, and have claimed in these instances that the neck was fractured close to the head of the bone; while other surgeons, who also regarded the line of union as being identical with the line of fracture, have maintained that the fracture in each of the given specimens occurred close to the shaft of the bone.

6th. Under favorable circumstances fractures of the neck of the femur external to the capsular ligament unite readily by bone, so also do fractures which are partly within and partly without the capsule; and it is highly probable that fractures within the capsule, which are followed by absorption, are sometimes united by bone, after the process of absorption has reached a point external to the normal capsule, where bony material is supplied; but this, if it ever does occur, can never be proven; for, if the line of union be partly without the normal capsule, it is impossible to determine that the fracture was entirely within

it, and we can never be positive that bony union of intra-capsular fracture has occurred, until a specimen is presented in which the line of union is found to be entirely included by the normal capsule.

7th. Fractures of the neck of the femur are, in most instances, followed by the absorption of a part or the whole of the neck, and a careful review of the cases recorded as proofs of bony union of intra-capsular fracture shows that, in the great majority of the cases, the posterior surface of the neck of each specimen had lost very much of its length by absorption before union occurred, and that the line of union on this surface, although included by the morbid capsule of the specimen, was too near the shaft of the bone to be included by any specimen of the normal capsule.

8th. Fracture within the capsule is followed, to a greater or less extent, by disease of the different tissues which constitute the hip-joint, and the neck of the femur being very imperfectly nourished after the fracture, usually suffers great loss by absorption before union occurs, so that its appearance after union resembles that appearance of the neck which is described by pathologists as the result of an interstitial absorption of the neck which occurs without fracture, as a consequence of old age. So closely allied are these appearances, that eminent pathologists in this and in other countries have claimed, with at least a fair show of reason, that many of the specimens hitherto exhibited by surgeons as proofs of bony union of intra-capsular fracture, have been examples illustrative of the changes produced by interstitial absorption; hence, in the further investigation of this subject, it becomes a matter of great importance that the diagnosis of fracture of the neck be clearly made out, and that it be vindicated by competent surgeons in consultation, and placed upon record in anticipation of an opportunity to complete the history of the case, it may be many years afterward, by describing the post-mortem appearances of the fractured bone.

What Next?—Apropos to the visit of hydrophobia to Washington to induce the Government to allow that phase of humbuggery to be tested in the treatment of the sick and wounded in the hospitals in that city, we observe that recently a spiritualist appeared before the Military Committee, to urge the organization of a corps of clairvoyancers to be consulted in the treatment of disease, and suggested that they might also be employed to remove wagons out of the mud.

Illustrations of Hospital Practice.

PHILADELPHIA HOSPITAL.

MEDICAL CLINIC.

Service of Dr. Da Costa.

February 15, 1862.

MANIA A POTU.

This case was that of a laborer aged twenty-three, admitted on the twelfth at 6 P.M., with all the usual symptoms of delirium tremens. He had nausea, and there was some evidence of further gastric disturbance. An emetic was immediately administered, followed by a full dose of salts, and he was then placed upon the use of *verat. viridi*.

The delirium in mania a potu is not a fierce delirium. It partakes rather of a rambling, good-natured wandering, though in some cases it becomes more violent. It is accompanied with a peculiar trembling nervousness, which gives it its name. The patient recognizes persons about him, receives his physician courteously, answers questions without hesitation, and gives rational answers, but his mind immediately wanders off upon subjects quite foreign. Morbid wakefulness is one of the characteristic symptoms. The patient does not sleep. His nervous system is excited to such an extent that he cannot sleep. We are told that this disease follows the suspension of the habitual use of intoxicating drinks in those long accustomed to their use. My observation here does not certainly confirm this view, but rather leads to the opinion that it is produced by an *excessive use* of liquors, by habitual tipping, lasting many days. Persons attempting to abstain from their use do sometimes get mania a potu, but it is not, I think, the rule. In this house, the cases that come into the wards are invariably the result of a continued debauch. The disease may be confounded with meningitis, or with the delirium of fever; and how will you distinguish it? The delirium of fever is more incoherent, is attended with a wholly different expression of countenance, and with heat and dryness of the skin. That of meningitis is more violent and complete, with a strong tendency to convulsions and coma. It is accompanied with a high, bounding, tense pulse, and is without the terrors and muscular tremblings of the alcoholic disease. And there is greater febrile disturbance in meningitis; yet the latter may be complicated with the delirium tremens, and form what may be termed mixed cases, in which the symptoms indicate congestion, or possibly inflammation of the brain, and render the diagnosis doubtful. In those cases the pulse must be your chief guide. It has not the fullness and tensivity peculiar to pure meningitis, but more than in pure delirium tremens.

Treatment.—There are certain cases which stop short of actual delirium; hallucinations are not marked, there is trembling, but no mental wandering. Such cases may be treated by rest in

bed, warm bath, purgatives, and antispasmodics. Another class, in which the delirium and nervous excitement are still more strongly marked, accompanied with gastric disturbance, are sometimes benefited in addition by an emetic; but the prominent indication is to procure sleep. The nervous system must be quieted. If the patient sleeps, he recovers. This is what he requires, and to procure it, give opium in large doses, three grains at once, following it by doses of one grain each till the object, sleep, is obtained. Other antispasmodics may also be used; the salts of morphia may sometimes be given in suppositories, especially when the gastric disturbance is great.

You will often find *verat. viridi* to be a most valuable medicine in delirium tremens. I have employed it for upwards of a year, and like it much. It quiets nervous disturbance and reduces the pulse. It is especially applicable to cases in which the pulse is full and the face flushed. After a few decided doses the patient generally becomes quiet.

Prognosis.—In general it is favorable, but patients die, at times, suddenly; some with large effusion into ventricles; sometimes the autopsy reveals no cause; some die by a clot effused into the lungs; some gradually sink away, and the dissection shows inflammation of the brain.

In connection with this case, the lecturer exhibited the brain of a man who was admitted into the wards on the thirteenth, in a high state of delirium and cerebral congestion, under which he soon sank, in spite of treatment. The brain exhibited externally the appearance of extreme venous congestion; the membranes were healthy, but there was slight adhesion between the arachnoid and dura mater. On cutting into its substance, we find it extremely vascular, as shown by the small spots of blood diffused through it, which only occurs when the brain is in an extremely congested state. There is slight effusion into the ventricles, and at the top of the brain we find recent adhesions, showing the presence of inflammation, and there is also effusion under the arachnoid.

The diagnosis in these cases is important, and you cannot be too careful in making it. You are not to conclude a patient has mania a potu because he has been drinking. He may have meningitis, or some other disease which disturbs the cerebral functions. Such ideas will lead you into many errors in treatment.

ACUTE TUBERCULOSIS.

John P., aged twenty-two, unmarried, laborer, very intemperate for the last three years, healthy and strong till two years ago, when he took cold and had a cough, which did not become serious until about two months since. He was admitted to the wards on the 29th of January, with a slight cough, but since that time has been rapidly sinking and losing flesh. The prominent symptoms are dyspnoea, respiration 60 per minute; his lips are blue, nose livid; pulse 98 to 100; sputa thick, purulent; percussion shows dullness over right

lung anteriorly; auscultation reveals loud gurgling under right clavicle, crackling lower down, and harsh, coarse respiration in the left lung. Now what do these symptoms indicate? An acute chest affection most certainly. The rapid breathing and the history of the case indicate that. It is not bronchitis, as there is no dullness on percussion in that affection. It may be pneumonia, yet he has suffered from a cough for a long time, which is not apt to be the case in pneumonia; and we find, further, in this case, signs of disorganization in the lung which do not belong to that disease. On the contrary, this disease has existed for a long time in the right lung, and the left is now becoming involved; pneumonia affects generally but one side. Again, the sputa of the latter are rusty colored; in this affection they are purulent. And still further, we have here rapid wasting and exhaustion, which, together with signs of disorganization and infiltration into the left lung, and the expectoration of blood some two years ago, confirm the diagnosis of acute tuberculosis.

Prognosis fatal. The life power will soon wear out. He will hardly survive three days. The treatment is palliative only. Give him a teaspoonful of the extract of wild cherry, with one-sixteenth of a grain of acetate of morphia, and what nourishment he will take.

On the 19th the post-mortem examination of this case was presented to the class. At the apex of the right lung a cavity was found, which corresponded to the gurgling sounds heard in life. There was also marked softening of this lung. Tubercles were found in both lungs. The liver is fatty, enlarged; spleen soft in structure; kidneys enlarged, and slightly fatty. The diagnosis made was fully confirmed.

The case of delirium tremens, mentioned above, was also presented before the class as convalescing. He had taken fluid extract of valerian, a teaspoonful, with one-fourth of a grain of morphia, three times a day, with an occasional addition of *verat. virid.* No stimulants had been given him. His diet had been nourishing. Under this treatment he was improving, but he was still weak, and to complete the cure let him have camphor-water, a tablespoonful, with a teaspoonful of Huxham's tincture of bark.

February 19th, 1862.

NEURALGIA, ARSENIC IN.

G. S., aged fifty-six, born in Pennsylvania, sailor, temperate in his habits, was in good health till three years ago, when he was attacked with general neuralgic pains. Since that time he has had four different attacks, with an interval, in one instance, of eight months. The last attack began in July and continued unrelieved till January. He has taken all the various remedies usually prescribed in neuralgia, such as valerianate of zinc, cannabis indica, quinine, iron, *verat. virid.*, but received from them no essential benefit. About one month ago he was put upon the use

of arsenious acid, in doses of one-twelfth of a grain, three times per day; and when suffering most, the tincture of aconite was applied locally wherever the pain was severest. Under this treatment he has been constantly improving, and is now entirely free from the excruciating pain he has so long suffered. In the administration of arsenic great care should be taken not to carry it so far as to produce the poisonous effects of the remedy.

J. R., a case of abdominal dropsy, before the class on the 22d of January, was again presented. During the interval his suffering had been so intense from the accumulation of fluid that he was tapped, which gave him temporary relief. He was placed upon the use of elaterium, but this remedy not producing the desired result it was discontinued, and he is now taking gamboge, in doses of six grains, together with the juniper-berry tea, and bitartrate of potassa. Under this treatment he expresses himself as feeling much better.

ACUTE RHEUMATISM.

This was the case of a female, aged twenty-one, single, native of Pennsylvania, temperate, seamstress, always delicate; has had the usual diseases of childhood, and of later years intermittent fever and neuralgia. One year ago she had what the physician who attended her designated as yellow fever, from which she recovered very slowly, and which rendered her unable to resume her occupation for six months. During the winter past she has had a cold from exposure. Ten or twelve days ago she began to suffer from severe pain, which became general through the system. In this condition she was admitted to the hospital on the 17th instant. Her pain is most severe in the arms and legs, and she shrinks from the slightest movement or touch. Her joints are swollen and stiff, and she has no power to move herself. Her skin is moist, perspiration acid. In short, she has well-marked symptoms of acute rheumatism. You have seen at this clinic cases of chronic and subacute rheumatism. You now see it in its acute form. This is a first attack, and in all such cases you should carefully examine the condition of the heart, for though I do not believe endocarditis to be always present in acute rheumatism, yet it is frequent, and there is always danger that it may supervene upon it. And why? Because in rheumatism there is an excess of lithic acid (so chemistry teaches us) circulating in the blood, constituting a blood poison, which has a peculiar tendency to fasten upon fibrous and serous tissues, the heart included.

Treatment.—As to the treatment of this disease there is great diversity of opinion and of practice. A celebrated Boston physician, in reply to a gentleman, who inquired of him what was a cure for rheumatism, replied, "six weeks;" implying that unaided nature would accomplish the cure. Yet medicine has an undoubted effect in checking the disease. The veratrum viride is used by some. The Dublin physicians rely upon opium; others

think highly of lemon-juice. And others give those remedies which tend to neutralize the poison, and carry it out of the system, the alkalies, for example. This is the method of treatment I prefer. What alkalies shall be used? Some of the preparations of potash, usually the bicarbonate, the acetate, the liquor potassæ, or the tartrate of potash and soda. In this case we will use the latter, and give the patient, therefore,

R.—Tart. potassæ et sodæ, ʒss;
Acetas morphinæ, gr. ss.

Twice a day. At night she may have a Dover's powder if the pain be very severe. The remedy is not given for its purgative effect, but that it may be retained and become converted into an alkali in the system. No active purge should be given, but the bowels should be kept slightly open; diet should be moderate in quantity, and of mild character.

PULMONARY FISTULA.

This was the case of a male, twenty-five years of age, who represents himself as strong and healthy till about seven years ago, when he had an attack of pleurisy followed by a relapse. About a month afterward he felt something giving way internally, and he expectorated purulent matter for three days, when the discharge stopped. He soon after this observed a swelling below the right nipple, which in three or four weeks broke and discharged externally, the discharge continuing in varying quantity until the present time. This is one of the terminations of pleurisy, but not a frequent one. A few cases of a like character have occurred in my practice. On introducing the probe it passes in for several inches. The patient coughs much; he has lost flesh; the discharge is offensive. Several points of clinical interest present themselves. There are no symptoms of pneumothorax. The pleura and lung must communicate, yet there is no effusion of air. The opening must therefore be surrounded with firm adhesions, circumscribing the aperture, and thus preventing the escape of the air into the pleura. What are the chances of cure? Uncertain. It may continue a long time, as in this case, or, as in the case of an Italian in this house who had a similar affection, care and good diet may cure him. Various remedies have been used in this case. Iodine has been injected into the fistula and it has been discharged, yet little benefit has resulted from its use. In a medical point of view the most that can be done is to use some mild injection with a view to cleanliness of the part, and give him tonics liberally.

Dr. Gross remarked upon the case, giving it as his opinion that, inasmuch as when the patient is up and walking about no discharge takes place from the opening, a sac would be found below the opening which forms a reservoir for the collecting matter. If so, and he had no doubt it was the fact, a counter-opening below would be the proper remedy, and should be at once made.

EDITORIAL DEPARTMENT.

PERISCOPE.

Weekly Summary of American Medical Journalism.

BY. O. C. GIBBS, M.D.

EXPERIMENTAL RESEARCHES ON POINTS CONNECTED WITH THE ACTION OF THE HEART AND WITH RESPIRATION.

In the *Am. Jour. of Med. Sciences* for October, Prof. Austin Flint, Jr., details a series of experiments with reference to the settlement of several important physiological questions, which are as yet subjects of dispute among physiologists. This is an interesting and important paper, of some forty pages, and we have space only for the author's *resumé*.

"In the foregoing essay, I conceive that I have established the following facts, which are either not generally admitted or not understood by physiologists:—

"1st. That the heart elongates during the systole of its ventricles.

"2d. That the cause of the rhythmical contraction of the muscular fibers of the heart is resident in the fibers themselves, is one of their inherent properties, and remains so they retain their 'irritability.' That it is derived neither from the cerebro-spinal nor sympathetic system of nerves.

"3d. That the natural stimulus which excites the regular and effectual movements of the heart is the blood, and that this cannot be replaced by a fluid of less density.

"4th. That though the flow of blood in the cavities of the heart is sufficient to induce, under ordinary circumstances, regular contractions of the organ, still it is necessary that these movements be further regulated and controlled; and that this is effected through the agency of the pneumogastric nerves.

"5th. That the action of the heart may be arrested, through the motor filaments of the pneumogastric nerves, by means of galvanism; that this does not take place in animals poisoned by woorara, on account of the paralysis of the motor nerves. That the motor filaments of the pneumogastries are the last which are affected by this agent, and that in the alligator they are left almost intact. That the cause of the arrest of the heart by galvanization of the pneumogastries is the exaggeration of the force which regulates the action of the heart, rendering it slower and more powerful.

"6th. That in asphyxia, the cause of the arrest of the action of the heart is over-distention of its cavities; and that anything which brings about a sufficient amount of distention will equally arrest the action of this organ.

"7th. That the auriculo-ventricular valves are closed by a backward pressure operating during the contraction of the ventricles, and not by the current of the blood from the auricles to the ventricles.

"8th. That the excitation which gives rise to the reflex phenomena of respiration, is received from the general system, and not from the lungs or heart. That this excitation is due to the want of oxygen in the tissues, and not to stimulating properties in the venous blood. That the exaggeration of this excitation constitutes the sense of suffocation, and gives rise, if excessive, to general convulsions."

DIET, DRINKS, AIR, ETC. FOR THE SICK.

Dr. John Ware, in his admirable lectures upon *General Therapeutics*, has a few interesting suggestions upon the subject of dietetic and nursery attentions for the sick. Though these are matters that more particularly come within the province of the professional nurse, yet they are not beneath the attention of the physician, for, in the country at least, he must direct all these matters, and to be able to do it well is often of more consequence, so far as his reputation and success is concerned, than the most erudite prescription.

We make a few extracts from the *Journal* for November 11th:—

Diet.—In regard to the proper diet for the sick, he thinks the appetite may often be safely consulted as to the *kind* of food, but more seldom in regard to quantity. It is sometimes necessary for a patient to take food though the appetite is entirely wanting, and in other instances it is necessary that less be taken than is craved.

"Yet a hungry patient is seldom to be denied something, and of the kind he desires. It is often astonishing to observe, when the fancy is strongly fixed upon some particular, how well it will be borne and digested, even when it was one that would seem, on ordinary principles, to be one of the most improper. This is especially noticed when convalescence is fairly established."

We have observed this often, and, in cases of disease, seldom disregard the demands of the appetite as to the kind of food. We have a case under observation now that presents some interesting points bearing upon the subject. Our readers will remember we detailed in the *REPORTER* for December 21, 28, page 291, an interesting case of a child, apparently convalescing from tuberculosis, in its last stages of emaciation, etc., under the use of Fowler's solution of

arsenic, iodide of potash, and belladonna. We remarked that, previous to the commencement of convalescence the appetite had for many weeks been almost nothing, while an exhausting diarrhoea continued to harass the patient. In fact, nearly all the child would take was a little boiled rice and drink a little milk. It would not be fed with the rice, but with its almost skeleton fingers it would pick up one kernel at a time, and perhaps not eat over a teaspoonful or two in the day. The first article craved after convalescence commenced, was hickory-nut meats. These we allowed the child to take as freely as it chose. No bad effects were observed—he digested them well, and improved in flesh and strength. Very soon after commencing with these he called for fried cakes, and these were not withheld. Fried cakes, hickory-nut meats, and a little wine constituted the principal diet for several weeks. When the child began to lose relish for these, pop-corn was the next article craved, and was allowed as the appetite required. Now the child has an irresistible craving for *starch*, which it will and does take in large quantities without either cooking or admixture—eating it as it would carbonate of magnesia, dry. Wine has been continued, as it had been for some time before convalescence commenced. The child is apparently doing well—growing, gaining flesh, and all its functions seeming to be normally performed.

We have observed similar unnatural desires in regard to drinks. In typhoid fever in particular we have observed an almost irresistible desire for *hard cider*. This desire we have indulged; have known a quart or two to be drunk in a day, not only without injury but with most marked benefit.

In regard to milk as a diet for the sick, Dr. Ware says:—

"There is no article which in cases of doubt, where the patient demands food in any stage of acute disease, can be so safely permitted as milk. There is, to be sure, a singular prejudice against its use, and it is regarded by most of those in the common care of the sick, as one of the most unsuitable kinds of nourishment. This prejudice is entirely without foundation, and it is rarely, where it is desired and relished, that milk may not be administered in some quantity. * * * Upon the whole, there is hardly any form of food equally substantial and nutritious, of which the residuum, when not digested, is passed on to the intestines, is received and fecalized with so little labor and irritation. * * * The milk

of the several animals used by man resembles the natural food more closely in its composition and adaptation to the wants of the human system than any other known substances."

We have found more difficulty in convincing nurses of the harmlessness of a milk diet for the sick than almost any other connected with our professional labors. Where we deem food absolutely essential and yet there is no appetite, but great thirst, we add new milk to cold water—one-half, one-fourth, or even less of milk, as may be deemed proper, considering the amount of drink taken and of nourishment required.

Drinks.—But little need be said upon this point, for but few physicians now deny to their patients drinks in liberal quantities. Cold water, or small pieces of ice allowed to dissolve slowly in the mouth, are the best means of quenching extreme thirst. Formerly great restrictions were placed upon drinks, and even now many physicians insist upon warm teas or very small quantities of cold water.

Referring to these errors of the past, Dr. Ware says:—

"Instead of pure cold water, the parched and feverish tongue has been moistened by sparing quantities of a thousand infusions and other preparations, of which the best that could be said was, that they were not directly hurtful."

Air.—Upon this point Dr. Ware says:—

"There has always been a strange perversity of judgment among mankind as to the nature and requirements of the state of sickness. It has been looked upon as a state specifically different from health, in which whatever was most agreeable, refreshing, and healthful to the well man was to be denied to the sick. Patients have been immured in hot, close, ill-ventilated rooms, and confined to beds surrounded with close-drawn curtains; light and air have been excluded; instead of substituting the pure breath of heaven for the offensive exhalations of disease, it has been sought to hide them from the sense by the fumes of vinegar, or rum, or aromatic drugs, while chemical ingenuity has been exhausted for means to neutralize them by I know not what number of offensive and very probably injurious gases. * * * No doubt the necessity of sufficient ventilation is now universally acknowledged, but the difficulty is in the appreciation among mankind of what sufficient ventilation is. The more freely and constantly the patient with acute disease is entirely exposed to the open air of heaven, the more advantageously does he go through with his malady. No fact in therapeutics is better established than this."

This requires a little qualification—we would not put a patient "entirely" out of doors and

keep him "constantly" there, especially in mid-winter. The idea is that the patient should be constantly in the receipt of new supplies of air, so as not to be necessitated to breathe the same air repeatedly, and that poisoned with diseased exhalations.

DIPHTHERIA IN THIS COUNTRY THIRTY-THREE YEARS AGO.

A correspondent of the *Boston Medical and Surgical Journal* for November 14th, says that he finds in the *New Hampshire Observer* for the year 1828, an account of a so-called "new disease." An extract from the paper of that date is subjoined:—

"*Curious Disease.*—Within the last three weeks Mr. Alvah S. Crafts, of Middlefield, has lost three children, and is now childless, by a disease without a name in this country. The first symptoms of diseased affection show themselves in a cankerous humor near the root of the tongue, inflammation ensues; and the subject finally dies in all the agony of the croup."

PIN-HOOK FOR REMOVING PINS FROM THE OESOPHAGUS.

In the *Am. Med. Times* for December 14th, Dr. J. W. Riggs figures and describes an instrument for removing pins from the oesophagus. It is difficult to describe this instrument, but it is readily understood from a cut of it. It is made of a small wire with a hook at the extremity, and three or four similar hooks attached at short intervals above.

"In making an instrument of this kind, the upper end of each hook should be so curved or rounded over as not to engage in the tissues in its passage either inward or outward, and the space between the returned end of the hook and the body of the instrument should be such as to receive the body of the pin without admitting the passage of its head. The lower hook may be formed of the main wire, and the additional ones of separate pieces of suitable length and secured upon opposite sides by means of common waxed thread."

THE TREATMENT OF SUPPURATING JOINTS.

Dr. Cooper, of San Francisco, in reply to some remarks in this journal on the priority of the practice of making free openings into suppurating articulations, makes the following remarks:—

"We do not claim to be the first who opened joints in a state of suppuration. There are several cases reported in standard works upon surgery, but we know of no standard work in which the practice is recommended as a rule.

The cases mentioned were generally regarded by the writers as exceptional ones. Whereas, we believe that in *all* cases where purulent matter is found, to any considerable extent, in a joint, it should be discharged by a free incision, if such an operation would be proper in the patient who has burrowing of matter in any other part of the body, and that the operation is more imperatively demanded in the former than the latter case; and further, that the more complicated the joint (such as the knee) the more the operation is demanded early.

"Probably medical journalists have been led into the opinion that we urged an exclusive claim to this practice, in consequence of our articles upon the subject being generally accompanied with remarks in regard to the innocuousness of atmosphere admitted into the joints. Upon this subject we do claim priority. So far as we know, there is not another writer, either as a standard author or contributor to a medical journal, who claims to have any convincing proofs that atmosphere admitted into joints or other tissues is not generally a source of danger; on the other hand, they all urge, when dwelling upon the subject, that it is a most unfortunate, if not even dangerous occurrence."

THE USE OF SARSAPARILLA IN SYPHILIS.

A number of experiments, instituted to ascertain the therapeutical value of sarsaparilla, in decoction, show beyond doubt that it has not the least demonstrable influence on the course and termination of syphilitic diseases. The decoction of Zittmann (and probably similar compounds containing sarsaparilla as principal ingredient) has some effect, occasionally strong enough to induce recovery, against secondary syphilitic forms treated successfully with mercurial and iodine preparations, or both of them, (papulous or pustulous syphilides, squamous herpes, ulcers of the skin and fauces, affections of the bones.) The effect of the decoction is the same, if no sarsaparilla is added to it. The use of sarsaparilla in syphilis should therefore be abandoned.—PROF. SIGMUND, of Vienna, in *Zeitschr. d. Gesellsch. d. Aerzte zu Wien.*—*Lancet and Observer.*

REVIEWS AND BOOK NOTICES.

Health; Five Lay Sermons to the Working People. By JOHN BROWN, M.D., author of "Rab and his Friends," etc. New York, Robert Carter & Brothers. Price 30 cents.

This is a well-timed and well-executed effort to instill popular lessons of duty to the doctor by patients, duty to his patients by the doctor, how to guide and educate children, and other medical

"odds and ends," which every practitioner and every adult patient may read with profit. It abounds in "Canny Scotch" stories, well told, illustrative of much sound instruction. His lectures to the medical man we have found as useful as those to the laymen must be to them. We have room but for one extract:—

"Run for the doctor; don't saunter, or go in, by-the-by, as an old elder of my father's did when his house was on fire. He was a perfect Nathaniel, and lived more in the next world than in this, as you will soon see. One winter night he slipped gently into his neighbor's cottage, and found James Somerville reading aloud by the blaze of the light coal; he leaned over the chair, and waited till James closed the book, when he said, 'By-the-by, I am thinkin' ma hoose is on fire,' and out he and they all ran, in time to see the auld biggin' fall in with a glorious blaze. So it is, too, often when that earthly house of ours—our cottage, our tabernacle—is getting on fire. One moment your finger would put out what in an hour all the waters of Clyde would be too late for. If the doctor is needed, the sooner the better. If he is not, he can tell you so, and you can rejoice that he had a needless journey, and pay him all the more thankfully. So run early, and at once. How many deaths, how many lives of suffering and incapacity may be spared by being in time—by being a day or two sooner! With children this is especially the case, and with workmen in the full prime of life. A mustard plaster, a leech, a pill, fifteen drops of ipecacuanha wine, a bran poultice, a hint or a stitch in time, may do all and at once; when a red-hot iron, a basonful of blood, all the wisdom of our art, and all the energy of the doctor, all your tenderness and care are in vain. Many a child's life is saved by an emetic at night, who would be lost in twelve hours. So send in time; it is just to the child or patient, and to yourself; it is just to your doctor, for I assure you we doctors are often 'sorry and angry enough when we find we are too late. It affronts us and our powers, besides affronting life and all its meanings, and Him who gives it. And we really enjoy curing; it is like running, and winning a race—like hunting, and finding and killing our game. And, then, remember to go to the doctor early in the day, and well as in the disease. I always like my patients to send and say that they would like the doctor 'to call before he goes out.' This is like an Irish message, you will say, but there is 'sinnse' in it. Fancy a doctor being sent for just as he is in bed, to see some one, and on going he finds that they had been thinking of sending for him in the morning, and that he has to run neck and neck with death, with all the odds against him."

Such a readable little volume, circulated among our patients, would do good to them and to us. By all means procure several copies and circulate them. The cost per copy is very small, while the advantage to all concerned would be great.

J. H. G.

A Treatise on Gunshot Wounds. By T. LONGMORE, Esq., Deputy Inspector-General of Hospitals; Professor of Military Surgery at Fort Pitt, Chatham. J. B. Lippincott & Co.: Publishers, Philadelphia. pp. 132. Price 75 cts.

This little manual is printed in a neat and attractive form, but for the surgical practitioner contains little in addition to the large amount of matter already published upon the same subject.

Border Lines of Knowledge in some Provinces of Medical Science. By OLIVER WENDELL HOLMES, M.D., Parkman Professor of Anatomy and Physiology in Harvard University. Boston: Ticknor & Fields, Publishers. pp. 80.

This neatly-printed volume is the Introductory Lecture delivered by Prof. Holmes before the medical class of "Old Harvard," in November last, and, like every other production of his which has come under our notice, is a bold, vigorous transcript of the author's peculiar method of utterance. He thinks and speaks for himself. The question whether his thoughts be orthodox is, to him, of the least consequence. Starting in this little volume with the idea, which he beautifully elaborates in all its pages, that "Science is the topography of ignorance," he does not undertake to determine *how much* progress in knowledge the present age has made, but opens before us the vast area yet unexplored. He brings the reader to the "border lines of knowledge," enthusiastic, perchance, with the prospect of rich discoveries just beyond, and tantalizes him, by exposing his profound ignorance. Thus chemistry, anatomy, physiology, microscopical revelations in both these branches, pathological anatomy, are all passed in review before the reader, each compelled to display its progress in the past, and to lift the veil of the future just high enough to reveal an inkling of the vast area yet unknown and unexplored.

In the branches of medical science which he teaches, Prof. Holmes is enthusiastic, instructive, and suggestive; here he moves steadily on in the line of safe progress. In other departments of medicine he exhibits instability, and lack of solid foundation on which to build a system of therapeutics. Here he treads upon ground of which its tenability seems doubtful to himself, and, unsatisfied with any method of curative treatment yet adopted, because one method has so quickly been superseded by another, he settles for the time being upon the phantasy "that medical curative treatment will, by and by, resolve itself in a great measure into modifications of the food swallowed and breathed, and of the natural stimuli."

The *Prussian Gazette* announces that gymnastics are to be introduced as a compulsory branch of education in schools of every degree in Prussia.

THE MEDICAL AND SURGICAL REPORTER.

PHILADELPHIA, SATURDAY, MARCH 8, 1862.

THE SURGEON ON THE BATTLE-FIELD.

The symbolized spot, near a field of battle, where the surgeon is performing his office of humanity, should be a sacred one, around which every sentiment of Christian feeling and true honor and generosity should throw their protecting ægis.—*British-American Journal.*

No language better than the foregoing can convey the true idea of the position of the surgeon upon the battle-field. He occupies "the symbolized spot" around which are gathered the tokens of war's devastation, and to whom, as an angel of mercy, not of wrath, he is to minister. In "performing his office of humanity," he exercises no partiality, save to those who most pressingly need his services to staunch the fast-flowing tide of life, or to bind up the wide-gaping wound. Belligerent he should not be. It is not his mission. No vindictive motive or feeling should be allowed for a moment to enter his breast. With the merits of the controversy waged upon the field of battle between opposing forces he may have his views and his opinions, but these should never influence his duties to the wounded who are committed to his care. Regardless of all other considerations, save the single one, how shall he fulfill his whole duty to whomsoever of war's unfortunate victims shall come under his charge, the eye of sympathy and commiseration should greet all alike, and the overflowing emotions of the heart should find utterance in prompt action to relieve.

Why should the surgeon, whose mission and office is so universally respected, be trammelled with weapons of warfare, or be even expected to defend himself from assault? Aye, will not even the rude hand of savage barbarity be paralyzed as it approaches the "sacred spot" where the humane surgeon bends over the wounded hero? So it was in one of the most sanguinary battles of modern times, when the French were driven back till the enemy reached the tables erected for the use of the surgeons, and where they were then at work. They were not molested. As if afraid the just judgment of Heaven would follow the sacrilege, their labors of mercy were undisturbed. So should it ever be, and so will it be wherever the true mission of the surgeon is properly understood.

There is a vindictive spirit, full of vengeance

against all who are found in anywise opposed to them, which would wantonly strike down even an angel of mercy who crossed their pathway; but these are infamous exceptions, and form no criterion of safe judgment for the general mass of humanity. The mass is not thus wanton and cruel. And just in proportion as the idea becomes prevalent that the surgeon is in no offensive sense a belligerent; that he is not a warrior, but a ministering angel; that he is present upon the battle-field not to mingle, sword in hand, in the carnage of war, but to tender to those who fall the sympathy and assistance they need, the "spot" where he plants his standard will be held "sacred" by all.

And why should it not be? It is the "symbol" of humanity. On no other place in all the wide waste of battle can the eye rest with any satisfaction, and here only, as it is the oasis of humane offices and attention.

In our own unfortunate war it is lamentable that the mission of the surgeon is not better understood by both combatants. Instances have occurred in which surgeons of both contending parties have been taken, and, in some respects, treated as prisoners of war, and subjected to all their privations and hardships. In one or two instances surgeons have been shot while in the performance of their duties, thus demonstrating that we have not yet fully comprehended the surgeon's mission upon the battle-field. He should be exempt from seizure as a prisoner of war, or, if arrested, he should be at once released, unless there are some special reasons against it. No arm should be raised to strike him down. His life should be held as sacred as that of the minister of God. As in his private practice he is bound in honor to keep inviolate the secrets freely imparted to him, so upon the battle-field he should be a man of deeds not of words. Loyal to his country he should ever be; he should also be loyal to his profession and to all the interests which come under his cognizance.

In this connection we are pleased to observe that in one department of our military operations, that of General Buell, orders have been given that the surgeons of the enemy shall not be disturbed on the field. What a relief to the horrors of the sanguinary conflict does such an announcement give, and what an evidence of triumph for struggling humanity in the bosom of the hardy veteran! Henceforth the surgeon's "symbol" shall be the signal to turn the tide of

war away; nay, before it the conflict shall cease. Why may it not be so in all the military departments of our country, both North and South, and the surgeon thus become the ministering angel, bringing comfort and blessing to the wounded, whose life shall be held sacred?

Why, also, should not a like provision be adopted as a part of the code of international law? Considered merely as a humanitarian measure in which all belligerents are alike interested, why should it not become the law recognized everywhere among all nations, that the surgeon is not to be classed as a belligerent; that his life is to be held sacred; that he is not to be retained as a prisoner of war unless there be *special commanding* reasons therefor; that in all his intercourse between belligerents the same principles of secrecy and circumspection are to govern him as in his private practice, and that he is always to restrict himself to the prompt and humane performance of the duties of his mission? But these are only hints for future consideration.

EDITORIAL NOTES AND COMMENTS.

Pennsylvania College of Dental Surgery.—The annual commencement of this institution occurred on Friday evening last, at the Musical Fund Hall. A large and select audience of the friends of the institution, among whom were many ladies, were present. The Germania Band was in attendance, and interspersed the exercises with some popular music.

The degree of D.D.S. was conferred upon the gentlemen whose names are given below. We give also their residences and the subject of their Theses:—

Horace A. Coe, New York, the Salivary Secretions; M. Frank Carll, Rhode Island, Orthodontia; Daniel W. Gehr, Maryland, Alveolar Abscess; Alfred T. Goodell, New York, the Importance of the Human Teeth; Charles A. Hastings, South America, Impressions, Dies and Counter-Dies; Elwood E. Hopkins, Pennsylvania, Causes of Imperfect Development of the Teeth; Augustus S. Kidder, New Hampshire, Development and Structure of the Teeth; Henry Leibert, Pennsylvania, Physiology of the Human Teeth and Digestive Organs; Theodore G. Lewis, New York, Tin and its Applications; Samuel Marlor, England, Reasons why a Dentist should understand Anatomy; Samuel K. Palmer, New York, Neuralgia Faciei, and Remedial Treatment; Joseph L. Perkins, Vermont, Salivary Calculus; Frank N. Shepherd, Maryland, Anatomy and Physiology of the Tongue; Sparkman R. Scriven, South Carolina, Carbon; C. Longstreth Smith, Connecticut, Fluids of the Mouth; Joseph F. Vegas, Louisiana, the Causes of Imperfect Development and Early Decay of the Teeth; Ernst L. Witte, Germany, the Dental Pulp; Joseph R. Wetherill, New Jersey, Diseases of the Antrum; N. B. Welton, M.D., Connecticut, Articulation of Artificial Dentures.

The valedictory address was delivered by J. L. Süsserott, M.D., D.D.S., Professor of Principles of Dental Surgery and Therapeutics, and con-

tained many practical hints of great value to the dental practitioner. The principal feature of success, he urged, in any profession, and especially in the medical or dental, is a fixed determination to succeed, and strength enough of will and purpose to avoid being drawn aside by tempting offers of temporary advantage. And if you add to these, urbanity of manner, force and energy of character, you have the elements necessary to the attainment of a high position in the practice of dental surgery. The address was well received by the intelligent audience, and portions of it were greeted with applause.

We are pleased to see the dental profession thus enforcing its claims to recognition among the branches of legitimate medicine, and we trust the day is not far distant when quackery in that department shall be considered as disreputable as in any other department of medical science.

From the report of the demonstrator, Mr. D. H. Goodwillie, we learn that in the operative department the following operations were performed on 620 patients: Gold fillings, 454; tin fillings, 325; temporary fillings, 11; amalgam fillings, 7; treatment and filling of pulp cavities, 113; superficial caries removed, 15; extraction of teeth and roots, 2464; removal of salivary calculi, 75; pivot teeth inserted, 13; treatment of inflammation of the gums, 20; ditto of alveolar abscess, 44; ditto for irregularities, 51; ditto for necrosis, 3; removal of tumors, 2. Total 3597.

In the mechanical department, which was under the direction of J. J. Griffith, as demonstrator: Whole sets of teeth, 18; upper sets, 31; whole set block teeth, 1; whole upper sets, block, 3; partial sets of single teeth, 20. Whole number of teeth mounted, 1210.

Jefferson Medical College.—The closing lectures of the course at this institution took place on Friday last. Dr. Charles D. Meigs, who has been connected with the college for some twenty-five years, resigned his position as Emeritus Professor of Obstetrics and Diseases of Women, and bade farewell to the class and to the active duties of the profession. The earnest and impressive manner in which he reiterated the opinions long since laid before the profession in regard to the treatment of puerperal fever, if it did not enforce conviction of the entire soundness, therapeutically, of the practice the doctor advocated, will, nevertheless, not soon be forgotten, and his words are more vividly impressed on the memory of those

who heard them than they could be by reproducing them here.

Dr. Meigs was followed by Dr. Dunglison, who, as the closing lecture in his interesting department, gave an elegant and classical disquisition upon death. He alluded, in fitting terms, to the kindly relations existing between himself and the students during the term, wishing them all a happy return to their homes, and a long career of usefulness in the benign vocation they had chosen, which blesses alike him who gives and him who receives.

The public exercises of commencement take place, we understand, to-day. The valedictory address will be delivered by Dr. Dickson.

Pennsylvania Hospital for the Insane.—The report of this institution, for 1861, is before us in a neatly-printed pamphlet of forty-four pages. It has two distinct departments, one for each of the sexes, and another year's experience has confirmed the conviction of its great advantages over any other arrangement.

The total number of patients in the hospital during the year was 456; the average number under treatment was 275. The number in the male department during the year, 247; in the female, 209; number at the date of the report was 128 and 127. The number discharged "cured" was 92—of each sex equal; "much improved," 14; "improved," 34; "stationary," 32; "died," 29. Since the establishment of the hospital in 1841, 3753 patients have been admitted, and 3498 discharged. Of the occupations of those admitted we find the largest number credited as "farmers and laborers," 439; the "professions" send only 98; "teachers and students," 100; "merchants and clerks," 336; thus showing a vast disproportion against what has generally been considered the most healthy occupation of life. The same anomaly is also found among the female patients: "domestics" furnish 203; "seamstresses," 182; "daughters of farmers and laborers," 105; "wives of ditto," 274; "widows of ditto," 55; a larger number than the "professions" or "teachers." Among the "causes of insanity," 601 cases are referred to "ill health of various kinds;" 243 to "intemperance;" 140 to "loss of property;" 193 to "grief, loss of friends;" 137 to "religious excitement;" 237 to "mental anxiety," etc. etc.

The gardens and pleasure grounds of the hospital have been improved during the year, and

the patients are more of them enabled to take daily exercise in the open air. A series of evening entertainments, instruction and amusement, have been given three times a week, occupying two hundred and fifty evenings of the year. A portion of the patients are also engaged in mechanical pursuits, and in cultivating and adorning the ample grounds of the institution. And thus everything which can aid in promoting cheerfulness and tranquillity, and thereby contribute to remedy the aberration of the intellectual faculties, is provided for the unfortunate patient.

The superintendent, Dr. Kirkbride, remarks, very correctly, in relation to hospital economy, that "the true economy consists in an avoidance of all waste, in having nothing done that is not useful in some way, in keeping everything in the highest state of efficiency, and doing all that is likely to restore to society its afflicted citizens in the shortest possible time." And in accordance with this principle everything connected with this hospital seems to be conducted.

Free Incision of Tonsils in Diphtheria.—Dr. S. J. Parker, of Ithaca, N. Y., writes us as follows on this subject:—

"Before I read the extract of a letter from Dr. McIntosh, of Nova Scotia, in the January 4th, 1862, number of your journal, I had noticed that at least some cases of diphtheria commence in the tonsils; next follows the bags of water on the uvula; and last, the fatal diphtherous membrane in the trachea. In one case, I was about to announce the hopeless prognosis of a young lady to her friends, when the favorable position of the tonsil induced me to lance it through and through a half dozen times, with a bistoury; cutting, also, the bags of water on the palate. I called the next morning expecting a fatal issue, but was happily disappointed in finding the laborious suffocating breathing gone, and the patient saying, 'I have spit up a good deal, and feel better.' She rapidly recovered.

"Several other extreme cases confirm me in the *through and through lancing* of the tonsil, one or both as required. I have no faith in the usual iron preparations; often they are vomited, unchanged, just before death. But my main hope now is in *excessive* (for the age) doses of quinine and nitrate of potash. The nit. pot. should be given by the ounce, not grains, daily. Belladonna is more valuable than the chloride of iron."

Filthy Water.—An endemic of diarrhoea of a very obstinate character is now prevailing in a section of this city, and is said to be confined to that portion which is supplied with water from

the Delaware River through the Kensington Water Works.

There have been, at intervals, for several years, repeated complaints of the filthy and offensive character of the water supplied to the northeastern portion of the city, and efforts to purify the water in the basins have frequently been made. Such purification is, however, but temporary, as the water is drawn from the bed of the river, near to the shore, and a vast amount of foul sediment is necessarily taken up by the pumps. The matter needs immediate attention from Councils and those having authority in sanitary matters.

It is said that the vile condition of the water is owing to the fact that the fire-plugs throughout the section of the city thus affected are rarely opened, and have never been thoroughly so since the consolidation of the city. If this be the fact, it may easily be remedied.

Remedy for Nursing Sore Mouth.—Dr. G. A. Moody, of Plainville, Connecticut, sends us the following recipe for this troublesome affection:—

R.—Red iodide of mercury,
Iodide of potash, aa ʒss ;
Pure water, ʒij . M.

Dose, four drops in a little water, three times a day.

He also uses it as a gargle, taking six drops of the solution to one-third of a tumbler of water, gargling the mouth or throat with it every three or four hours. He says "almost immediate relief is afforded to the smarting sensation of the throat and mouth." He is indebted for the above to an article in *Wood's Retrospect*, published in New York some years since.

Bebeerina in Menorrhagia.—This article, which is the active principle of the Bebeeru tree, which grows in British Guiana, and possesses properties somewhat similar to cinchona, we observe is gaining some celebrity in the treatment of menorrhagia. The formula for its administration is the following:—

R.—Bebeerinæ sulphas, gr. xij;
Pulv. cinnamomi, gr. xvij;
Pulv. ferri, gr. vj. M.
Ft. chart. xij.

One of these to be taken every other day during the interval between the menstrual terms. During the flow, especially if it be profuse, the remedy should be given oftener, and in larger doses. As a remedy, in cases of simple uncomplicated menorrhagia, this article possesses merits which are worthy of note.

Medical Provision for Railroads.—We have received an ably written paper, read before the New York State Medical Society at its late session by Dr. Edmund Arnold, of Yonkers, N. Y., which we shall endeavor to notice in our next issue. Meanwhile, to enable the reader more fully to understand that portion of the proceedings of the New York State Medical Society referred to in the report of the committee, of which Dr. Shrady, of New York, was chairman, (REPORTER, Feb. 22, p. 479,) we quote the resolution itself, and state that it was occasioned by the paper of Dr. Arnold mentioned above:—

"Whereas, this Society has heard that a measure is about being introduced into the Senate, of which an especial feature is thorough medical provision for railroads; and,

"Whereas, we believe that much loss of life and limb results from the want of such proper provision; therefore

"Resolved, that we hail with satisfaction the introduction of any plans calculated to secure so desirable an end."

NEWS AND MISCELLANY.

Philadelphia County Medical Society.—At the annual election for officers of this Society, the following gentlemen were elected: *President*, Dr. Alfred Stillé; *Vice-Presidents*, Dr. Joshua H. Worthington, Dr. Henry Hartshorne; *Recording Secretary*, Dr. William B. Atkinson; *Assistant Recording Secretary*, Dr. A. H. Fish; *Corresponding Secretary*, Dr. James M. Corse; *Treasurer*, Dr. Andrew Nebinger; *Censor*, Dr. George Hamilton.

Northern Medical Association of Philadelphia.—The following are the officers of this Association, elected in January, 1862: *President*, Dr. Owen Osler; *Vice-President*, Dr. Alfred M. Slocum; *Recording Secretary*, Dr. Wm. B. Atkinson; *Corresponding Secretary*, Dr. Wm. Mayberry; *Reporting Secretaries*, Dr. Samuel N. Troth, Dr. Wm. B. Atkinson; *Counsellors*, Dr. N. L. Hatfield, Dr. Charles Wittig, Dr. John Rhein, Dr. Lewis P. Gebhard, Dr. Joseph R. Bryan.

City Railways.—The net earnings of the city railways for 1861 was \$1,077,120 84; expenses, same time, \$543,893 85; net surplus, \$523,226 99. An enormous profit for an indispensable accommodation.

Oiled Paper as a Substitute for Oiled Silk in Surgical Dressings.—A writer in the *Boston Medical Journal* says that in the Glasgow Royal Infirmary he has seen oiled paper efficiently substituted for oiled silk in surgical dressings.

"The following is the mode of preparation:

Take good 'tissue' paper, free from holes, as many sheets as may be required; boiled linseed oil, say one quart; to which add one ounce sulphate of zinc, and reboil for an hour or longer. A little beeswax and turpentine may be added, while the oil is hot. Use a square board, larger than the sheet of paper. Coat the first sheet on both sides with a broad paint or paste brush; the rest of the sheets only require to be coated on one side, as the oil strikes through. Place the second sheet on the top of the first, slightly projecting at one end, for convenience of lifting, and so on, *seriatim*. When all the sheets are coated, hang them up to dry in a moderately warm place, for twenty-four hours. When taken down, each sheet may be dusted over with French chalk, which will prevent them from adhering. If sufficient wax and turpentine have been used in the mixture, the chalk dusting will not be needed.

"Dr. McGhie, in his pamphlet, claims the following advantages for oiled paper as compared with silk:—

"1. *Economy*.—A sheet costs from one to two cents only.

"2. *Transparency and lightness*.—Applied over a stump or other cut surface, when hemorrhage may be feared, the state of the part can be more readily seen. On account of its lightness, it is particularly useful in covering extensive burns.

"3. *Adaptability*.—It can be nicely applied to any part, retaining the form impressed upon it. It is easily torn, while, at the same time, it can be made of any required strength by doubling or trebling it.

"4. *Safety*.—The great objection to oiled silk (or even to gutta-percha sheeting) is, that the expense tempts us to use it over and over again; and in this way disease is propagated. There would exist no such temptation with oiled paper, as it could only be used *once*, and all risk of contagion in this way would be avoided."

Confederate Navy Surgeons.—Wm. F. Patton, W. A. W. Spotswood, L. W. Miner, Wm. F. McClenahan, D. S. Green, John T. Mason, Wm. B. Sinclair, R. F. Mason, Jas. F. Harrison, J. W. B. Greenhow, D. B. Philips, J. Ward, Wm. F. Carrington, C. H. Williamson, Arthur M. Lynch, Wm. E. Wysham, D. B. Conrad, Fras. L. Galt, H. W. M. Washington.

Assistant Surgeons.—A. L. Garnet, F. Van Bibber, J. W. Sandford, Jr., Thos. J. Charlton, Chas. E. Lining, M. P. Christian, R. J. Freeman, B. W. Green, Jno. D. Grafton, Chas. M. Morfit, Theodosius B. Ford, R. R. Gibbs.

The Massacre of the Innocents in London.—The enormous mortality of children continues to be a great stain on the honor and a heavy burden on the conscience of the nation. It arises from causes of which many are beyond the control of the health officer, who, however, should never cease to perform the duty of pointing to the blot.

In the metropolis this quarter, according to the report just published, the numbers are in the annual proportion of 23.1 per 1000 of the inhabitants of the Eastern district, 23.6 of the Western, and 21 of the Central, making together an annual death-rate of 22.4 per 1000 for the entire city. The average mortality in all England during the autumn quarter is at a yearly rate of 21.8 per 1000, and in the chief towns of England it is 24.9. Thirty-eight per cent. of all the deaths were among children of less than 5 years of age, and nearly 20 per cent. among old persons of 60 and upwards; 13 per cent. were among adults at from 20 to 40 years of age, and 19 per cent. at from 40 to 60. These are nearly the proportions of former years. Looking, however, at the numbers which have contributed to this aggregate, it will be observed that the mortality at different ages in the several districts of the city has not been equally distributed. In the Eastern district, for example, the mortality of children has been 50 per cent. of all the deaths, whereas in the Western it has been only 36 per cent. Both of these divisions of the city have nearly the same kind of population, and we cannot point to any especial cause for this high death-rate of children in the first-named district but the great density of the population. In the Eastern district there are 266 persons to an acre, whereas in the Western there are only 200, and in the rest of the city but 105. In the whole of the metropolis, with a density of only 36 persons to an acre, the mortality of children under 5 years of age is nearly 42 per cent. of all the deaths. What wonder, then, that in a district so closely packed as the Eastern the infant mortality should rise to 50 per cent!—*Lancet*.

The statue of Dr. Jenner, of small-pox vaccination celebrity, has been removed to Kensington Gardens. It is placed on a new pedestal in the vicinity of the stone bridge spanning the Serpentine, on the Bayswater side. This statue, it will be remembered, was some time ago promoted to a distinguished place near the Nelson Column, in Trafalgar Square.

The Twelfth Annual Commencement of the New York Medical College and Charity Hospital was held at the College building in Thirteenth Street, New York, on Tuesday evening last. Eleven gentlemen received the Degree of M.D.

DIED.

FELTON.—February 26th, at the residence of his brother, near Chester, Delaware County, Pa., Cornelius Conway Felton, LL.D., President of Harvard College, aged 54 years.

PHILLIPS.—In Pennington, N. J., on the morning of the 4th inst., of erysipelas, Miss Josephine E., eldest daughter of Dr. John H. and Elizabeth A. Phillips, in the 22d year of her age.

POLLARD.—In Richmond, Va., on the 20th ultimo, aged 34, Dr. James Rives Pollard, of Virginia, for several years past a resident of South Carolina.

ROWE.—On the 26th ultimo, at the residence of his son-in-law, A. Sperry, in Horsham Township, Montgomery County, Dr. John Rowe, aged 63.